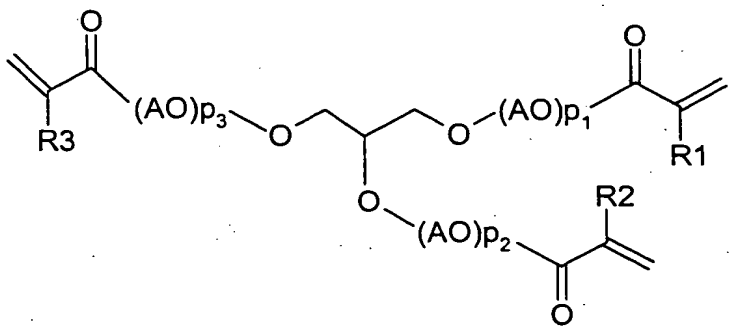
We claim:-

1. An ester F of the formula Ia



where AO is for each AO independently EO or PO,

where EO is O-CH2-CH2-,

PO is at each instance independently O-CH2-CH(CH3)- or O-CH(CH3)-CH2-

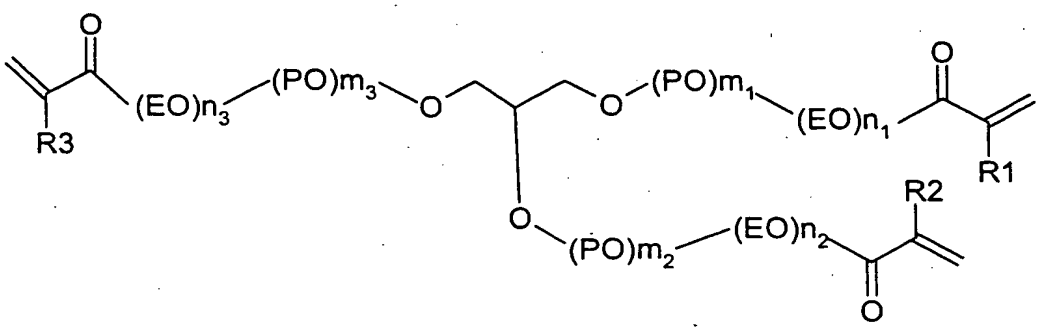
p1 + p2 + p3 is 3, 4 or 5,

R1, R2 and R3 are independently H or CH3.

2. An ester F as per claim 1, wherein AO is EO.

3. An ester F as per claim 1, wherein at least one AO is PO and at least one further AO is EO.

4. An ester F of the formula Ib



where EO is O-CH2-CH2-

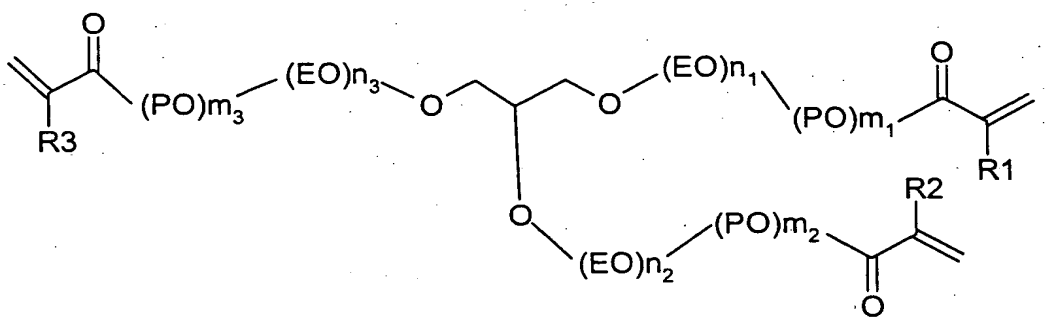
PO is at each instance independently O-CH2-CH(CH3)- or O-CH(CH3)-CH2-

m1 + m2 + m3 + n1 + n2 + n3 is 3, 4 or 5,

m1 + m2 + m3 is 1, 2, 3, or 4,

R1, R2, R3 are independently H or CH3.

5. An ester F of the formula Ic



where EO is O-CH2-CH2-

PO is at each instance independently O-CH2-CH(CH3)- or O-CH(CH3)-CH2-

m1 + m2 + m3 + n1 + n2 + n3 is 3, 4 or 5,

m1 + m2 + m3 is 1, 2, 3, or 4,

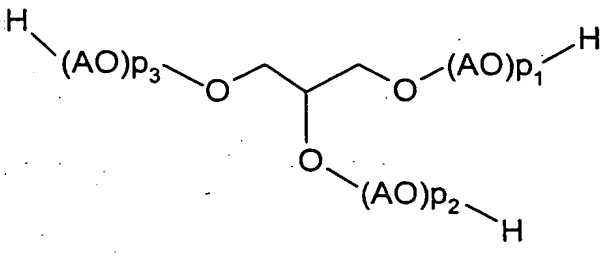
R1, R2, R3 are independently H or CH3.

6. An ester F as per any of claims 1 to 5, wherein m1 + m2 + m3 + n1 + n2 + n3 or p1 + p2 + p3 is equal to 3 or 5.

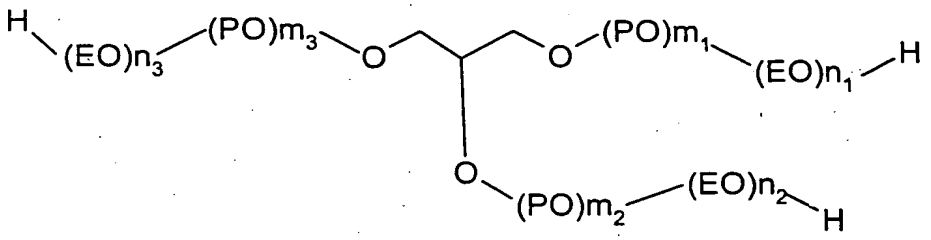
7. An ester F as per any of claims 1, or 3 to 6, wherein 3 POs are present in total.

8. An ester F as per any of claims 1, or 3 to 7, wherein at least one PO is present in each of the 3 alkoxy chains of glycerol.

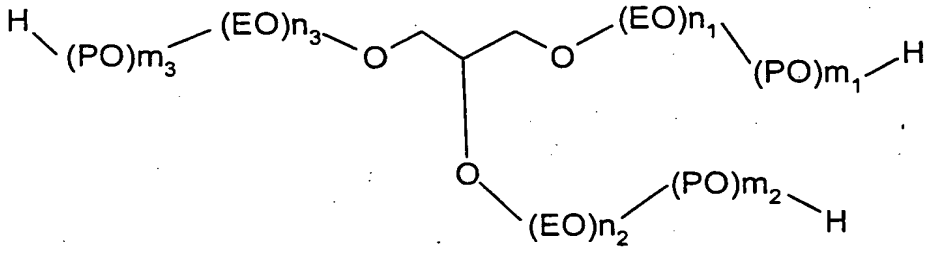
9. A process for preparing an ester F as per any of claims 1 to 8 of alkoxylated glycerol of the formula IIa, IIb or IIc



IIa,



IIb,



IIc,

where AO, EO, PO, n1, n2, n3, m1, m2, m3, p1, p2 and p3 are each as defined in any of claims 1 to 8,
with (meth)acrylic acid, comprising the steps of

a) reacting alkoxylated glycerol with (meth)acrylic acid in the presence of at least one esterification catalyst C and of at least one polymerization inhibitor D and optionally also of a water-azeotroping solvent E to form an ester F,
b) optionally removing from the reaction mixture some or all of the water formed in a), during and/or after a),
f) optionally neutralizing the reaction mixture,

h) when a solvent E was used, optionally removing this solvent by distillation, and/or

i) stripping with a gas which is inert under the reaction conditions.

10. A process as claimed in claim 9, wherein

- the molar excess of (meth)acrylic acid to alkoxylated glycerol is at least 3.15:1 and
- the optionally neutralized (meth)acrylic acid present in the reaction mixture after the last step substantially remains in the reaction mixture.

11. A process as claimed in either of claims 9 and 10, wherein the (meth)acrylic acid is not more than 75% by weight removed from the reaction mixture obtained after the last step, which reaction mixture contains ester F.

12. A process as claimed in any of claims 9 to 11, wherein the reaction mixture obtained after the last step, which contains ester F, has a DIN EN 3682 acid number of at least 25 mg of KOH/g.

13. A process as claimed in any of claims 9 to 12, wherein the reaction mixture obtained after the last step, which contains ester F, has a (meth)acrylic acid content of at least 0.5% by weight.

14. A process as claimed in any of claims 9 to 13, wherein the molar ratio of (meth)acrylic acid to alkoxylated glycerol in reaction a) is at least 15:1.

15. A process for preparing a crosslinked hydrogel, comprising the steps of

k) polymerizing an ester F as per any of claims 1 to 8, with (meth)acrylic acid, with optionally additional monoethylenically unsaturated compounds N and optionally also at least one further copolymerizable hydrophilic monomer M in the presence of at least one free-radical initiator K and optionally of at least one grafting base L,

l) optionally postcrosslinking the reaction mixture obtained from k),

m) drying the reaction mixture obtained from k) or l), and

n) optionally grinding and/or sieving the reaction mixture obtained from k), l) or m).

16. A process for preparing a crosslinked hydrogel, comprising steps a) to i) as per any of claims 9 to 14 and additionally

k) polymerizing the reaction mixture from one of stages a) to i) if performed, with optionally additional monoethylenically unsaturated compounds N and optionally also at least one further copolymerizable hydrophilic monomer M in the presence of at least one free-radical initiator K and optionally of at least one grafting base L,

l) optionally postcrosslinking the reaction mixture obtained from k),

m) drying the reaction mixture obtained from k) or l), and

n) optionally grinding and/or sieving the reaction mixture obtained from k), l) or m).

17. Polymer obtainable according to a process as per either of claims 15 and 16.

18. Crosslinked hydrogel containing at least one hydrophilic monomer M in copolymerized form crosslinked with an ester F as per any of claims 1 to 8.

19. Crosslinked hydrogel containing at least one hydrophilic monomer M in copolymerized form crosslinked with a reaction mixture which contains ester F and is obtainable according to a process of claims 9 to 13.

20. Use of a polymer as per any of claims 17 to 19 in hygiene articles, packaging materials and in nonwovens.

21. A composition of matter comprising

- from 0.1% to 40% by weight of at least one ester F as per any of claims 1 to 8 and (meth)acrylic acid,
- 0.5 – 99.9% by weight of at least one hydrophilic monomer M,
- 0 – 10% by weight of at least one esterification catalyst C,
- 0 – 5% by weight of at least one polymerization inhibitor D, and
- 0 – 10% by weight of a solvent E,

with the proviso that the sum total is always 100% by weight.

22. A composition of matter as per claim 21, further comprising

- a diluent G ad 100% by weight.

23. Crosslinked hydrogel obtainable from a composition of matter as per claim 21 or 22 and additionally

l) optionally postcrosslinking the reaction mixture obtained,
m) drying the reaction mixture obtained directly or from l), and
n) optionally grinding and/or sieving the reaction mixture obtained directly or from l) or m).

24. Use of a reaction mixture obtainable according to any of claims 9 to 13 or of a composition of matter as claimed in claim 21 or 22

- as a free-radical crosslinker of water-absorbing hydrogels,
- as a starting material for preparing polymer dispersions,
- as a starting material for preparing polyacrylates,
- as a paint raw material, or
- as a cement additive.

25. Crosslinked hydrogel having a saponification index of less than 10, preferably less than 8, and especially less than 5.

26. Crosslinked hydrogel as per any of claims 17, 18, 19 or 23 having a saponification index of less than 11, preferably less than 10, more preferably less than 8, and especially less than 5.

27. Crosslinked hydrogel as per any of claims 17, 18, 19, 23, 25 or 26 having a residual crosslinker content of less than 10 ppm, preferably less than 8 ppm, more preferably less than 5 ppm.

28. Use of an ester F as per any of claims 1 to 8 for preparing hydrogel-forming polymers capable of absorbing aqueous fluids.